

# W5YI

## America's Oldest Ham Radio Newsletter **REPORT**

Up to the minute news from the world of amateur radio, personal computing and emerging electronics. While no guarantee is made, information is from sources we believe to be reliable.

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## Ham Operation in Europe, Parts of the Americas Gets Easier

On June 7<sup>th</sup>, the FCC issued a public notice activating a simpler way to operate Amateur Radio equipment in certain European countries. As required by the *European Radiocommunications Office*, the public notice was issued in three languages (English, German and French). It states:

### **AMATEUR SERVICE OPERATION IN CEPT COUNTRIES**

Subject to the regulations in force in the country visited, a U.S. citizen holding a Technician, Technician Plus, General, Advanced or Amateur Extra Class amateur radio service operator license grant by the Federal Communications Commission (FCC) is authorized to utilize temporarily an amateur station in a European Conference of Postal and Telecommunications Administration (CEPT) country that has implemented CEPT Recommendation T/R 61-01 with respect to the United States. CEPT Recommendation T/R 61-01 is available on the Internet at <http://www.ero.dk/>. [Note: The ERO, European Radiocommunications Office is located in Copenhagen, Denmark.]

While operating an amateur station, the person must have in his or her possession a copy of this Public Notice, proof of U.S. citizenship, and evidence of the FCC license grant. These documents must be shown to proper authorities upon request.

When the privileges authorized by the FCC

license grant are Technician Plus, General, Advanced, or Amateur Extra Class operator privileges, the corresponding CEPT operator privileges are CEPT amateur Class 1. When the privileges authorized by the FCC license grant are Technician Class operator privileges, the corresponding CEPT operator privileges are CEPT radio amateur Class 2.

When the privileges authorized by the license grant are Novice Class operator privileges, the licensee is not authorized any corresponding CEPT radio amateur privileges. As mentioned above, operator privileges are subject to the regulations of the country visited.

Participating CEPT countries as of June 7, 1999, are: Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France,\* Germany, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Monaco, Netherlands, Norway, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, and the United Kingdom.\*\*

\* Participating for France, Corsica, Guadeloupe, Guiana, Martinique, St. Bartholomew, St Pierre/Miquelon, St. Martin, and Reunion/Dependencies.

\*\* Participating for Great Britain, Northern Ireland, the Channel Islands, and the Isle of Man.

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There are actually two different CEPT recommendations. Both allow radioamateurs to operate in each certain CEPT-recognized countries without having the need to apply beforehand for a license. Each treats the Morse code proficiency issue differently. Countries may adopt one or both of these resolutions.

T/R 61-01 which applies to temporary ("short periods") of operation does not specify a code speed level only that amateurs must "...have proved their competence with Morse code to their own administration." Only portable and mobile operation is permitted, including stations set up at hotels or a camping site. Authorization is also granted for U.S. hams to operate the stations of permanent licensees in host countries. The use of Amateur Radio aboard an aircraft is not allowed. T/R 61-01 is the older of the two recommendations (1985.)

T/R 61-02 - adopted in 1990 - provides the examination syllabus for the *Harmonized Amateur Radio Certificate* (HAREC) and is a permanent license which permits fixed station operation and is recognized in all CEPT countries. Amateurs of CEPT countries that adopt the examination outline specified in T/R 62-01 are required to be Morse proficient (both sending and receiving) at 12 words-per-minute. Reception exam must be at least 3 minutes with a maximum of four errors.

There are two HAREC levels, level "A" is an all band/all privilege license while level "B" permits operation only above 30 MHz. The Harmonized Amateur Radio Certificate can be compared to the International Amateur Radio Permit (IARP) in the Americas.

It is interesting to note that CEPT nations only have two amateur radio license examinations: a theory exam and the 12 wpm code exam. When the international Morse code requirements are dropped (most probably in 2001), CEPT will only have one license class and one examination.

## Switzerland considers a different approach

Theoretically it is not possible for a CEPT nation to drop the Morse code requirements since European member states are bound by the European Telecommunication authority. But at least one CEPT country is strongly considering it.

We recently received word from an European correspondent about a packet message being circulated telling about a short paragraph on page 4 of the June 1999 issue of *"Old Man"*, the Swiss ham magazine. It mentioned that the BAKOM (the Swiss telecommunication regulator) is considered abolishing Morse code testing entirely and reported of similar plans in other countries - without mentioning them. BAKOM is the acronym for *Bundesamt für Kommunikation* which translates to the Federal Office for Communications

Supposedly BAKOM plans to take this step shortly

even if an "international CEPT incompatibility" would result and if other countries needed more time to abolish their CW exams. To ensure that a Swiss amateur would be able to use HF equipment in other CEPT countries, BAKOM proposes to offer a voluntary CW examination until a WRC deletes the Morse proficiency requirement in S25.5 of the international law.

*Union Schweizerischer Kurzwellen-Amateure* (or USKA) is the national Swiss ham radio society. Reportedly USKA has accepted the plan, but wants the BAKOM to replace the Morse test with some questions about electromagnetic interference. The BAKOM already has said that they would support this change.

To determine if our report was accurate, we sent e-mails to both USKA and BAKOM. We have now received a reply from Walter Schmutz, HB9AGA -- the USKA liaison officer to the IARU -- who confirmed that BAKOM is indeed considering dropping all Morse code examination requirements as a prerequisite for HF amateur radio operation and could take this step soon.

Rudolf Rieder heads up the *Radio Licensing Section* of BAKOM. He answered our e-mail and talks of a possible national (rather than international) solution to the Morse code obligation. Here is what he said:

Dear Sir

What you are referring to in your mail and what was published in the June edition of the *"Old Man"*, is the report of a meeting between USKA and BAKOM which took place in May 1999.

At this meeting, the abolition of the CW examination requirement as prerequisite for the access to short wave frequencies was discussed and possible solutions were considered.

The question is also addressed by a CEPT project team and will sooner or later have to be taken up at a WRC.

To come back to the May meeting, no decisions were taken. It was merely an exchange of views and it is the intention of USKA to carry out an opinion poll amongst their members, before a decision is taken.

Both organisations, BAKOM and USKA would prefer to follow an international solution, however, a national solution is not excluded if on an international level, it takes too long to come to an agreement.

The conclusion is that no decisions have been taken so far and it is too early to publish any firm intentions.

Best regards, Rudolf Rieder

BAKOM, Head of Section, Radio Licences, Zukunftstrasse 44, CH-2501 Biel-Bienne (Switzerland)

Telecommunications regulatory agencies all over the world are looking at ways to reduce the need for ham operators to learn high speed Morse code.

Germany has converted their Class "A" beginning license which requires 6 word-per-minute (wpm) code proficiency to a full privilege Class "1" license. Argentina has reduced their 10 wpm General Class and 15 wpm Superior class to 7 wpm. Canada is proposing to let their



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no-code "Basic" ham operators use the entire 10-meter HF band once they pass 5 wpm.

In our last issue we reported that the United Kingdom will introduce a 100-watt all band - all privilege Amateur Radio license this fall for Class "B" (code free) operators who pass a 5 wpm telegraphy exam. New Zealand is considering doing away with all Morse examinations. Applicants will be able to upgrade to HF privileges by simply proving that they have completed 25 CW (code) contacts.

## Region 1 - Future of the Amateur Service Committee

The Region 1 (basically Europe and Africa) IARU Conference is scheduled to take place in Lillehammer, Norway in late September. The German Deutscher Amateur Radio Club -- the DARC is the German national ham radio society -- will be proposing that a Region 1 "Future of the Amateur Radio Service Committee" (R1 FASC) be established to deal with all future aspects of global Amateur Radio and the international ITU (S25) rules in particular. Region 1 member societies have been invited to present their positions on FASC matters prior to the establishment of this Committee.

Our European correspondent tells us that the DARC has already established a FASC working group and they have issued their position report "internally." The working group is headed up by a Harry Timm, DL6HBT, a previous Deutscher Amateur Radio Club District Director of many years. A section of the (translated) report says in part:

"The number of amateurs in and outside the DARC will fall dramatically within the next years. We will not be able to stop this, we only can slow it down. If this trend continues, the DARC will no longer exist 10 or 15 years from now.

"Today, no doubt, we will have to do everything to abolish Morse telegraphy as a prerequisite for HF, even against all loud pro-coder votes, and even against the rest of the world. The DARC has to bundle all its forces to break up the screen of pro-coders. CW is just one of many modes of operation."

The FASC working group was founded by the DARC itself and they cannot and will not ignore it. We understand that the DARC position will be released at the upcoming IARU Region 1 Conference.

We also understand that the DARC will present a formal proposal for the adoption of their "HF Band Plan 2000" in IARU Region 1 and request that it be adopted in Regions 2 and 3 as well so the allocations will be worldwide in scope.

Their plan provides for the emergence of new modes, changes in user operation and promotes economical spectrum usage in view of the increased number of operators. As an aide to resolving frequency disputes, more emphasis will be placed on legally binding frequency use rather than on generally accepted (optional) band plans. The new scheme will be based on typical band

widths rather than on modes of operation.

The basic plan provides for three transmitting categories which the DARC calls:

- **Telegraphy Modes** (Narrow Bandwidth - NB - bandwidth of 0.5 kHz or less) such as CW,
- **Machine Modes** (Medium Bandwidth - MB - between 0.5 and 1.5 kHz) includes all digital modes which are produced by machines (i.e. computers) such as Baudot/RTTY, AMTOR, PACTOR, CLOVER, ASCII, Packet Radio; and
- **Voice Modes** (Wide Bandwidth - WB - more than 1.5 kHz) includes all modes of this form of transmission. (Up to 10 MHz LSB should be used; above 10 MHz USB.)

### 160 meters

1810 - 1838 (NB)  
1838 - 1842 (MB)  
1842 - 2000 (WB)

### 40 meters

7000 - 7035 (NB)  
7035 - 7045 (MB)  
7045 - 7100 (WB)

### 20 meters

14000-14070 (NB)  
14070-14112 (MB)  
14112-14350 (WB)

### 15 meters

21000-21080 (NB)  
21080-21150 (MB)  
21120-21150 (NB)  
21150-21450 (WB)

### 10 meters

28000-28050 (NB)  
28050-28150 (MB)  
28150-28200 (NB)

### 75/80 meters

3500 - 3580 (NB)  
3580 - 3620 (MB)  
3620 - 3800 (WB)

### 30 meters

10100-10140 (NB)  
10140-10150 (MB)

### 17 meters

18068-18100 (NB)  
18100-18110 (MB)  
18110-18168 (WB)

### 12 meters

24890-24920 (NB)  
24920-24930 (MB)  
24930-24990 (WB)

28200-29200 (WB)

29200-29300 (MB)

29300-29510 satellite down link

29510-29700 (WB)

## International Amateur Radio Permit

The Class 1 IARP -- available to Tech Plus and higher class licensees -- requires knowledge of Morse code and carries all operating privileges. The Class 2 IARP -- equivalent to the U.S. Technician ticket -- does not require knowledge of Morse code and carries all privileges above 30 MHz. An IARP is not a license, but it certifies the existence of a license.

Complete information on CEPT and IARP operation, including an IARP application form and a copy of the FCC Public Notice on CEPT, is available from the International Operating page on ARRL Web, <<http://www.arrl.org/field-regulations/io/>>.

The new procedures affect operation only in participating CEPT (European) and CITEL (Central and South American) countries. They do not change the procedures for US hams wishing to operate overseas in countries that are not CEPT participants or CITEL Amateur Convention signatories. Information on operation from these countries also is available on the pages of ARRL Web.



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## CUTTING EDGE TECHNOLOGY

■ **The wireless Internet is on the way!** At present phone wires and TV cables are used to bundle phone, TV and the Internet together. But another system ...the next generation of fixed-wireless access called *Local Multipoint Distribution Services* or LMDS is on the horizon.

Although LMDS can transmit up to 100 times faster than the cable TV modems and phone-based DSL (Digital Subscriber Line), there are shortcomings to fixed-wireless. It needs line-of sight transmission to the home and is affected by bad weather.

Motorola and Cisco are getting together on their new combined LMDS phone, TV and Internet service which will be named *SpectraPoint Wireless*. Motorola will own 81 percent of the venture and Cisco, 19 percent.

■ **New eye-catching LEDs coming soon.** Alpha-One Electronics is now offering elliptical light-emitting diodes under the name *Cat's Eye*. They claim that the unusual shape provides more efficient light delivery than standard LEDs.

■ **DIVX is dead. The digital video format meant to compete with DVD has been officially abandoned by Circuit City**, its spearhead, because of huge financial losses. DIVX was different from (and not compatible with) DVD in that a DIVX disc was meant to be "rented," and then disposed of after viewing instead of being returned to a video store. DIVX technology required the purchaser to view the entire contents of any disc within a single 48-hour period, after which the disc would no longer be viewable without an extra fee. Several items coalesced to kill DIVX: most movie studios didn't support it, and didn't distribute enough films in that format; most rental stores wouldn't carry the discs; DIVX players cost about \$100 more than DVD players; and environmentalists worried about the discs collecting in landfills. Customers who bought DIVX players may be eligible for a \$100 rebate.

■ **The Virtual Electrician is a series of CD-ROMs that contain high-quality 3-D graphics**, animation and multimedia effects to let students practice real-world applications of the National Electrical Code. Use the mouse to attach an ammeter to a cable, or a voltmeter to an electrical plug -- all on your screen.

■ **Some students didn't have to drag themselves to class for final exams at the end of this school year.** They took their tests online. How did teachers prevent cheating? By issuing special floppy disks to their students. Once loaded, the software temporarily takes command of the student's computer, locking out certain sections of the hard drive. Test results are uploaded to the school's database and graded.

■ **Coax cable that's designed to leak?** Trilogy's AirCell radiating cable combines antenna and coax characteristics into a single slotted cable. Both 50- and 75-ohm impedances are available. Two slots, 180 degrees apart, allow for RF radiation along prescribed pathways.

■ **Lasers can be made from many different gasses, but carbon dioxide provides the best work for your money.** Its beam is quickly absorbed by a wide variety of materials, such as cloth, wood, glass, plastics, ceramics, etc., providing a quick means of cutting. Metal, however, is a tough customer for a carbon-dioxide-based laser; it must often be pre-coated with a heat-absorbing material (such as black paint). The laser burns away the coating as it cuts into the metal.

■ **Microwaves can not only cook your food, they can also tell what's in it.** Toshiba has a fluid density meter for industrial applications that incorporates RF phase-difference measurement in the microwave region. The device transmits RF into a fluid, and compares the resulting phase shift of the energy coming out of the fluid with the original phase when it went in. This allows the meter to determine how much solid material is in the fluid.

## EMERGING TELECOM

■ **Look for WebTV to have some competition in the television set-delivered Internet business.** America Online and DBS (direct broadcast satellite) leader DirecTV are planning to offer AOL TV - a two-way satellite-delivered online service. And two other firms (Worldgate and Source Media) have TV online services on the drawing board.

Microsoft Corp., which bought WebTV for \$425 million in 1996, plans to incorporate WebTV into new digital set-tops being deployed by cable operators. WebTV now has 800,000 subscribers.

Microsoft will invest \$5 billion with AT&T to develop interactive TV applications.

A recent survey has determined that WebTV customers spend more time online and make more purchases than the average Internet surfer.

■ **Family Radio Service (FRS) (460-MHz) hand held radios are showing up in Canada** - even though the service is not authorized there. Manufacturers have requested to sell FRS radio equipment in Canada. As a result Industry Canada will soon be releasing a proposal to introduce this service north of the border. Industry Canada indicated that it hoped a discussion document on this issue would be available for public comment by the fall. Industry Canada also indicated that this is a fairly complex issue, as there are many licensed stations in Canada that currently operate on FRS frequencies and they could experience harmful interference from the unlicensed operations.

■ **It doesn't look good for Motorola's 18% stake in Iridium** - the \$5 billion global satellite telephone LEO network. Although there have been reports of poor audio quality (static and signal lapses), the system works. Apparently few people can afford it, however.

The 7.5-inch (one pound) handsets cost \$2,300 each and airtime is expensive - up to \$7 a minute. It is nearly two feet long with the antenna opened up. An international Iridium paging service is also available, but again, the cost is high: \$500 for the 80-character alpha-numeric message pager plus \$140 a month for service. See: <[www.motorolasatellite.com](http://www.motorolasatellite.com)> for information on the hardware. There is also a link there to the main Iridium site at <<http://www.iridium.com>>

Service is offered in 150 countries but is still pending in dozens of others including Mexico. Journalists in Kosovo (who paid more than a \$100 for a 20 minute phone call) generally gave the system high marks. An online Iridium airtime rate calculator is available at: <<http://www.glocall.com/rates.html>>.

Iridium won't be profitable until it gets 1 million customers. And it has a long way to go! So far it has 11,000 - about 1% of what is needed.

In related news, Motorola has suspended its work on Teledesic - the LEO satellite Internet in the sky - due for launch in 2003.

■ **How far away can HDTV (high definition television) over cable TV**



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**wires be?** NBC has entered into a joint venture with AT&T to transmit digital television (including the Olympics for the next ten years) over their newly purchased cable network (the former Tele-Communications, Inc. network.) AT&T's cable operating arm is called *Broadband and Internet Services (BIS)*.

■ **The May 7<sup>th</sup> issue of Science Online** (<<http://www.sciencemag.org>>) tells about a new low-power "single chip radio" being developed at Lucent Technologies. Look for the radios to begin showing up in everything from cell phones and computers to toys. The miniaturization technology will even make possible the ultimate "Dick Tracy wristwatch" - complete with interactive video.

## COMPUTER INFO

■ **The world's third largest computer trade show - Taiwan's "Computex Taipei '99"** featured all sorts of peripherals for the Macintosh iMac computer. Everything was colorful, translucent, had an "i" prefix and connected to a Universal Serial Bus port. By the way, the top two computer shows are the Las Vegas' Comdex and CeBIT in Hanover, Germany.

■ **For quick and easy hard-drive duplicating**, check out the *Image Masster Solo* handheld device from Intelligent Computer Solutions. Once connected to source and target drives, it can automatically exchange data, search for empty sectors, and even arrange partitions. It verifies data as it records it and can also recover software lost from sector damage. This device is especially useful for mass duplicating of hard drives for service technicians.

■ **Why not make screen-saver programs work for you?** Some large corporations use internal networks to exchange data among their employees, and certain programs can provide up-to-the-minute stock market information, company news, and other timely data to video screens when those computers are not busy with other tasks.

■ **Computerists who purchase CD-ROM "burners" in the hopes of pirating commercial software** may have their plans squashed.

Macrovision, the company that created the technology which prevents most movies on videotape from being dupli-

cated, has come up with a similar technique for CD-ROMs. SafeDisc prevents CD-Recordable drives from making copies of specially encoded discs. It does not affect game play or keep a genuine disc from loading properly.

## INTERNET NEWS

■ **Aimed at families, churches, schools, and libraries**, Internet Service Provider *Keystone Energy Services, Inc.* (Los Angeles) is offering server-filtered Internet access that blocks sites with pornography, bomb-making instructions and dangerous chemical/biological formulas and plain misinformation. They claim their service - offered through 570 local access numbers - is "96% pollution free."

■ **The fastest growing category of e-commerce is clothing as women sign online in record numbers!** According to a new "Internet User Trends" survey just released by the Washington DC-based Strategis Group, more women are signing onto the Internet. The gender gap between has narrowed to 8 percent in just two years.

In mid-1997 thirty-seven percent of all males were online versus only 16% for U.S. adult females. At the end of 1998, however, 46% of U.S. males and 38% of females were online.

Men continue to be more technically knowledgeable. (For example: 53% of all women do not know what their modem speed while 84% of all men did.)

Women buy four times as much clothing online as men. Men buy software and electronics. Both sexes aged 18 to 34 are signing onto the Web equally while female users 65 and older are less than half as likely to use the Internet as their male counterparts.

■ **Amazon.com is the king of online e-commerce** - at least in terms of sales and customers. It has gone from zero to 10 million customers in less than four years. In October 1997, Amazon.com became the first Internet retailer with 1 million customers, and its customer base has grown another tenfold in 21 months.

Amazon.com started selling books online in July 1995. In June 1998, when it had about 3 million customers, the company added its music CD store, and five months later, a video store. Amazon.com finished 1998 with 6.2 million customers and since then has launched Amazon.com

Auctions and a free electronic greeting card service.

Amazon.com also operates two international Web sites (in the UK and Germany), PlanetAll ([www.planetall.com](http://www.planetall.com) - an address book, calendar, and reminder service), the Internet Movie Database ([www.imdb.com](http://www.imdb.com)), LiveBid.com - an auction site, Drugstore.com, Pets.com and HomeGrocer.com.

Amazon.com went public just two years ago (May 1997) at \$18.00 a share and split 3 for 1 earlier this year. It is now selling at \$117 after reaching a high of \$221 a share in April.

Amazon.com is the brainchild of 35-year old Jeff Bezos who graduated in 1986 from Princeton with degrees in Electrical Engineering and Computer Science. An early achiever, he was also high school class president and valedictorian. Bezos managed money on Wall Street before starting Amazon.com. Bezos, the son of a Cuban refugee, owns 42% of the company - about 10 million shares. His estimated worth is between \$2 and \$9 billion.

He chose Seattle for his headquarters because of its pool of talented computer professionals. The name "Amazon" was picked so it would show up first on search-engine lists first.

Like most Internet companies, Amazon makes no profit. In fact it lost \$125 million on \$610 million in sales last year. But the name of the Internet game - at least for now - is having a huge "customer base" and a lot of people believe the future is rosy for Amazon.com. It is using any extra cash for marketing and acquiring other companies. The next project? We understand that Amazon will soon launch an online toy store.

■ **Wanna be a disk jockey? "Live365.com" is a brand new web site** that gives Internet broadcasters up to 100 MB of server space with which to operate their own Web-based music site....for free! Previously independent DJ's had to purchase large amounts of server space upon which to post their Internet broadcasts.

The Live365.com service will initially provide users with access to streaming MP3 servers. The service will quickly expand to include support for broadcast of streaming video, animation and other forms of self-authored rich media.

Live365.com broadcasts use industry standard formats and are compatible with popular MP3 players. Check out: <<http://www.live365.com>>



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■ An Australian firm (AMC of Sydney) has acquired the rights to the [www.video-poker.com](http://www.video-poker.com) domain and software to begin offering video poker over the Internet. They will offer the three most popular games: Deuces Wild, Jacks or Better and Jokers Wild.

The firm says they "...will have the capacity to virtually handle more players in one day than all the Video Poker machines in Las Vegas combined." Real money wagering begins next month. Web gambling is regulated and taxed by Australian authorities.

The 1998 *Casino & Gaming Business Market Research Handbook* predicted that the Internet gaming market could reach \$100 billion to \$200 billion in annual revenues by 2005.

■ **Tandy Corp's. TechAmerica catalog and chain stores will change their name and re-emerge as RadioShack.com.** In addition to an expanded parts catalog, "Radio Shack dot Com" will sell over the Internet. Over the past few years, Tandy has been abandoning divisions (such as Computer City and Incredible Universe) to concentrate on the Radio Shack name. TechAmerica is the last non-Radio Shack named operation.

■ **Internet porn site to buy Caesars Palaces? -- or at least it says they want to!** The most popular search word on Internet search engines is (you guessed it), "sex." And those who enter the word usually get referred to: [www.sex.com](http://www.sex.com). -- a sleazy site that offers hardcore pornography without even as much as a warning notice. The site is said to be owned by a little known mutual fund, Ocean Fund International, Ltd., supposedly headquartered in the British Virgin Islands.

Sex.com says they have over 9-million members who pay \$24.95 per month. That's nearly \$3 billion a year! According to a press release distributed on the web by *PR Newswire*, a respected online public relations firm, their 1,000 page deep site gets more than 146-million unique "hits" daily and advertisers pay up to \$1.5-million monthly to display their banners. And supposedly there is a waiting list of over one year for premium ad-space. Those figures are astronomical and, in reality, not credible.

Ocean Fund International says they will offer to pay over \$6 billion to purchase and improve all eight Caesars Palace locations -- \$3.6 billion (all cash) will be paid up front to buy the hotel-casino chain. Another \$2.5 billion (again, cash)

will be paid for capital improvements. They also plan a big sports arena at the Las Vegas Caesars Palace.

The world's largest gaming company, as measured by casino square footage and revenues, Park Place Entertainment Corp. already has reached agreement to buy Caesars casino-hotels from Starwood Hotels and Resorts for \$3 billion. Ocean Fund's offer is 20 percent more.

Gambling industry analysts are calling the planned purchase "bizarre" and say they have never heard of Ocean Fund International. An unanswered question is how is a firm whose biggest asset appears to a porn site going to get licensed by the various state gaming commissions.

The Investment Company Institute said it had no knowledge of the Ocean Fund and the Dow Jones Newswires reported that they are not registered as a mutual fund in the British Virgin Islands.

This, folks, appears certain to be a gigantic Internet site publicity stunt. The Associated Press put out a story on it as did "Wired News." Both questioned the purchase.

"Wired News" said that Ocean Fund "...is involved in a lawsuit that alleges the site's operator Stephen Cohen, a convicted felon, tricked Internet registrar *Network Solutions* and stole the lucrative domain name. [He took] control of the domain in late 1995, shortly after he was released from the federal prison in Lompoc, California." Only on the Internet could all this happen!

■ **By now all of you should have heard about a destructive, self-propagating virus called the "Explore.Zip" worm.** Many virus reports are fake, but this one is very real. The "worm" -- as such programs are called -- was first discovered in Israel during early June. It is spread by attaching itself to an e-mail message. It is very dangerous since the attachment (with the file name of "zipped\_files.exe") can be unknowingly attached to a file sent to you by one of your friends or business associates. The worm uses their e-mail address list in order to propagate.

A message accompanies the attachment. It says: "Hi [recipient name]! I received your e-mail and I shall send you a reply ASAP. Till then, take a look at the attached zipped docs. Bye." The WIN-INI file is then modified so that the program is executed (and more attachments distributed) every time Windows is started.

When executed, files on your hard drive are destroyed by making certain ones

"0" bytes long. The best remedy is not to open ".exe" files e-mailed to you -- *even from people you know!* Even Microsoft was hit causing them to have to take down their mail servers.

■ **The sheer distance between Australia and the United States means that Americans watching Internet video feeds from the 2000 Olympic Games in Sydney may have to endure delay times as long as half a minute.**

■ **The vast majority of worldwide Internet traffic must pass through equipment in the United States, even if it isn't meant to end there.** Much network time is wasted because of this, which is why *Digital Island* has set up network access centers in Hawaii to bypass the U.S. when handling Asia-Pacific data, and in London to handle European data. This greatly speeds things up.

■ **An Internet-based HMO (health service) appears imminent.** It appears only a matter of time before you'll be asked to sign up online for health insurance. Healtheon Corp has agreed to acquire WebMD in a \$7.9 billion (yes, *billion*) deal paid with its stock which has been driven up by speculators.

Neither company is profitable, but Healtheon's shares (listed as HLTH on the Nasdaq) shot up to over \$100 a share on the news. (Their 52 week low is 93¢ share!) At presstime, HLTH is selling around \$90. Their CEO said their ultimate goal is to "...enable a better, more efficient health care system." Healtheon lost \$100 million last year. WebMD had sales last year of only about \$100 *thousand*.

Healtheon collects fees when doctors and dentists use its services to process claims, make specialist referrals, order lab tests or contact pharmacies. Currently 180,000 doctors, 10,000 dentists, 42,000 pharmacies and more than 1,000 hospitals have contractual arrangements with Healtheon. WebMD is a medical portal site.

What makes Healtheon worth so much? Its high-profile founders and players. Microsoft has made a \$250 million investment in WebMD. And Healtheon's founder is Jim Clark - the same entrepreneur that founded Netscape and Silicon Graphics. The WebMD/Healtheon alliance now unites longstanding foes, Jim Clark and Bill Gates!

On May 26<sup>th</sup>, Healtheon acquired a clinical laboratory, Unilab Corp. We also



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heard that Healtheon is next looking to acquire an Internet pharmacy like drugstore.com or PlantRX. The name of the game is to cut out all the "fat" ...i.e. middlemen. Big bucks are floating around here, folks so stay tuned! What Hillary couldn't do, maybe can be done on the Internet! Check out: [www.WebMD.com](http://www.WebMD.com) and [www.Healtheon.com](http://www.Healtheon.com).

## WASHINGTON WHISPERS

■ In the United States, the *National Gambling Impact Study Commission* has recommended that Congress ban gambling on the Web altogether. The NGISC recommends that the Justice Department develop enforcement systems targeting "but not limited to, Internet service providers (ISPs), credit card providers and money transfer agencies."

The Commission further wants legislation passed stating "...that any credit card debts incurred while gambling on the Internet are unrecoverable."

The commission, established by Congress in 1996 to explore gambling issues, is heavily comprised of U. S. casino, gaming ...and state and federal policymakers who are primarily interested in protecting their revenues.

Sen. John Kyl (R-Ariz) has introduced legislation that would make Internet gambling a crime, but it doesn't look like that bill is going anywhere. His anti-gambling bill would fine U.S. casinos up to \$20,000 for each bet they take over the Internet. But online gambling is an off-shore business run in about two dozen different countries which are beyond the reach of U.S. law.

■ **Texas microbroadcaster ordered to pay \$11,000 fine!** The FCC has confirmed an \$11,000 forfeiture and issued a 'cease and desist' order against Joseph F. Ptak of San Marcos, Texas for his operation of 'KIND' radio, an unlicensed FM broadcast station. The station operates 24 hours a day seven days a week on 105.9 MHz in the FM band.

On April 7, 1997, FCC field agents from the Dallas Office tracked the KIND signals - which could be heard for a range of ten miles - to Ptak's residence. The agents ordered Ptak to cease operation but he refused to do so. A year later, Ptak was still operating the station.

His position is that the station serves as an outlet for the expression of his views which are protected by the First Amend-

ment. The FCC pointed out that the *Communications Act* precludes any person from transmitting radio signals within the United States without a license.

The FCC also rejected Ptak's contention that the FCC "lacks jurisdiction" because the radio transmissions are radiated solely within the state of Texas. The Commission noted that *Section 301* of the *Act* gives the FCC jurisdiction over all radio transmissions, both interstate and intrastate. Ptak was ordered to pay the full \$11,000 forfeiture by July 19<sup>th</sup>.

[FCC action released June 9, 1999]

■ **A court decision released early June allows local authorities to regulate cable Internet services.** A federal court ruled that local cable franchising authorities could require AT&T to allow competing Internet service providers onto its system. AT&T said it would be reluctant to make a "...deep pocket investment" if competitors were given access to their system "...for practically free."

The FCC warned that allowing local governments to control regulatory and technical standards could have a devastating effect on the cable industry's planned high speed service rollout.

FCC Chairman Bill Kennard said that deployment could be delayed or even precluded if thousands of local governments begin imposing different regulations on cable Internet services. So far, the Commission itself has refrained from seeking broadband cable Internet regulations.

"The Information Superhighway will not work if there are 30,000 different technical standards or regulatory structures for broadband," Kennard said.

■ **You'll shortly be seeing the so-called "V-chip" showing up in consumer television sets.** By July 1, half of all new TVs with screens larger than 13 inches are required to contain the blocking device which gives parents more control over what their children watch.

The V-chip "reads" the program's ratings and only parent approved shows are televised. By January 1<sup>st</sup> all new screens 13" and larger must have them. TV manufacturers say they will meet these deadlines. The device adds about \$50 to the cost of a TV set.

■ **The FCC's General Counsel has sent a clarifying letter to the U.S. Customs Service** concerning FCC approval of Amateur Service equipment. The device in question is a Mirage 10-meter (Model 2950) transceiver.

The FCC said that "Devices used in the Amateur Radio Service do not require authorization prior to being imported into the United States, but devices for other services, including the CB service, require Commission approval. The type of device at issue here is designed to operate in the amateur '10-meter band'..."

"The amateur 10-meter band uses frequencies that are very close to the channels set aside for use in the CB service. Some devices that manufacturers call '10-meter' radios either operate on CB frequencies as manufactured and imported or are designed such that they can readily be activated by a user, a service technician or a dealer to operate on CB frequencies. ..."

"The Commission's equipment authorization experts in the FCC laboratory have determined that the Mirage 2950 and other similar models at issue here are intended for use in the CB frequencies and can easily be altered to activate that capability, such as by moving or removing a jumper plug or cutting a single wire. Thus they fall within the definition of a CB transmitter [which] must be certificated by the FCC prior to marketing or importation. Moreover, dual use CB and amateur radios of any kind, may not be type accepted under the Commission's rules."

## AMATEUR RADIO

■ **Vanity station call sign "Regulatory fees" to increase by 8 percent.** On June 18<sup>th</sup>, the FCC announced its *Schedule of Regulatory Fees* for fiscal year (FY) 1999. Congress has required that the FCC collect \$172,523,000 through regulatory fees in order to recover the costs of its enforcement, rulemaking, international and user information activities for FY 1999. This amount is \$10 million - or approximately 6% - more than the amount that Congress designated for recovery for FY 1998.

Regulatory fees are not paid by government and non-profit entities. Amateur radio operators are considered non-profit and except for amateur vanity call signs do not pay these fees.

The amount of the fees must be reasonably related to benefit derived and the cost incurred by the FCC. Small fees such as those incurred for vanity station call signs are payable in advance. This category covers voluntary requests for specific call signs in the Amateur Radio Service



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authorized under Part 97 of the Commission's Rules.

The FCC determined that the amount to be collected for an Amateur Vanity Call Sign should be \$1.42 per year. This has been rounded off to \$1.40. The fee for a vanity call sign thus goes to \$14.00 for a ten year term license. (It is currently \$13.00.) The FCC estimates that 6,800 applicants will apply for vanity call signs in FY 1999.

General Mobile Radio Service (GMRS) licensees will pay a \$7 annual regulatory fee per license or \$35, payable for an entire five-year license term at the time of application for a new, renewal or reinstatement license.

The new fees become effective September 10, 1999.

■ **Shuttle flight STS-93 commanded by the first woman, Mission Commander Eileen M. Collins, KD5EDS** has been delayed again. Liftoff for the five day mission now won't come before July 20<sup>th</sup>. Also on board are two other ham operators, Mission Specialists Michel Tognini, KD5EJZ and Catherine Coleman, KC5ZTH. STS-93 is the only Shuttle Amateur Radio Experiment (SAREX) mission planned for this year.

SAREX flights offer the opportunity for school children to chat directly with astronauts in orbit. These are the five participating schools for STS-93: Memorial Middle School in Pharr, TX, Ponaganset Middle School in North Scituate, RI, Awty International School in Houston TX, Buzz Aldrin Elementary in Reston, VA and the Osceola Elementary School in Ormond Beach, FL. The primary mission for STS-93 is to deploy a sophisticated X-Ray telescope and observatory

■ The following story was originally distributed by the AFP (Agence France-Presse) News Service headquartered in Paris.

**YUGOSLAV DEFENSE USING HAM FREQUENCIES? - BUDAPEST, June 2 (AFP)** - Yugoslav air defense monitors may be disguising themselves as radio hams and using frequencies reserved for radio amateurs to communicate key military information, a news report said Wednesday.

The Hungarian Vilaggazdasag economic daily said that men calling themselves Yugoslav radio hams were using a particular frequency to communicate accurate information about aircraft and missile positions.

"But while real radio hams must iden-

tify themselves at least at the beginning of their check-in, these 'amateurs' keep forgetting the identification," it said.

They then "transmit this information in a chain to a certain point, which is probably the center of the (Yugoslav) air defense" command, the newspaper reported.

"The possible conclusion is that trained military observers are using these radio amateur frequencies, to make air defense forecasts and plans," the paper said.

Vilaggzadasag said it obtained a taped recording of such a broadcast from last Friday, when such "amateurs" were using the 3,395 kHz frequency between 1900 GMT and 1930 GMT. - *AFP News Service*

■ **Lewis DePayne, KA6RBJ (Tech Plus)** - an accomplice of the notorious hacker Kevin Mitnick, N6NHG (General Class) - has pleaded guilty to one count of wire fraud for his role in a series of computer break-ins that took place between 1992 and 1995.

DePayne is scheduled to be sentenced on July 12<sup>th</sup> in a Los Angeles federal court. In a plea bargain arrangement, DePayne reportedly will get six months detention, five years probation and up to \$3,000 in fines. He also must reveal how he and Mitnick were able to penetrate corporate security systems.

Hackers, sympathetic to Mitnick redirected visitors to the U.S. Senate's main website on June 11<sup>th</sup> and sent them to a fake Senate website. The hackers left messages supporting Mitnick who has already been sentenced to 46 months in prison for pleading guilty to five counts of computer fraud.

Sun Microsystems, NEC and Nokia have claimed a combined total of \$300 million in damages resulting from Mitnick's hacks who has already spent 48 months behind bars. But he won't go free. Mitnick still faces two more hacking counts in Northern California and another four years in prison.

■ **The flap about the Swatch (Swiss Watch) Company's intent to use ham radio frequencies to promote Internet time** made the May 17<sup>th</sup> issue of Forbes magazine. The article said "The stunt infuriated the ham fans, who don't want companies treading on their turf. Mir Astronaut Jean-Pierre Haignere is reported to have launched the beatnik satellite into space, switched off so it wouldn't violate ham radio regulations prohibiting commercial use."

■ **Chester R. Cook, AC5LZ (Los Lunas, NM), Richard J. Barlow AC5MY (Albuquerque, NM), Lois E. Jeter AC5RM (Albuquerque, NM), William E. Dinsmore, NX9J (Palm Harbor, FL) and Harvey H. Morsbach KC5LZ (Sinton, TX)** have been ordered by Riley Hollingsworth to re-take all license examinations leading up to and including their Extra Class ticket.

In addition, these amateurs must re-take the following license examinations: **Ronald R. Coursey N6UUM (Sacramento, CA)** and **William Estrada II, KD6VEG (New Alameda, CA)** Technician; **James W. Dale KE4TEW (Tampa, FL)** General Class and **David Tolassi KC1ZO (Barre, VT)** Advanced Class. Their licenses will be canceled if they fail to appear.

**Victor A Misek W1WCR (Hudson, NH)** has been cited for his operation of the "Liberty Net" on 3.950 MHz on top of existing Amateur communications. The "Liberty Net" is a questionable political 75-meter discussion group. One researcher in abnormal behavior called the net "...an example of obvious alcoholic behavior, manifested as irrational anger, resentment and childlike acting out" and "...a thorn in the side of the radio hobby." One Internet directory site has the net listed as a "hate group."

Hollingsworth wrote W1WCR, "You are reminded that Amateur frequencies are shared frequencies and the 'net' has no greater rights than any other licensed operator on any given frequency. Operation of this type is considered deliberate interference and cannot be tolerated...." Hollingsworth also asked Misek to "...review Section 97.1 of the Commission's rules regarding the Amateur Service and explain how the operation of the 'net' is justified."

"We are so far unable to determine how the transmissions of this group meet the standards of, contribute to the purposes of, or the allocation of frequencies for the Amateur Radio Service. Your group may wish to explore operation on the Internet, or, should the Commission authorize such service as a result of the current proceeding, a low power FM broadcast grant."

"We remind you that Rule 97.113-(a)(5) prohibits communications on the Amateur frequencies that, on a regular basis, 'could reasonably be furnished alternatively through other radio services.' Additionally, Rule 97.113(b) prohibits broadcasting." Misek was given 20 days



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in which to respond.

**Charles Hart (Conover, NC)** has been sent a formal warning by Riley Hollingsworth notifying him that he will be fined and his equipment confiscated if he operates on Amateur Service frequencies without a license.

**Steve Massey N6TT (Manhattan Beach, CA)** has applied for and has been issued 14 ham club call signs. Some have been traded in for preferential "Vanity" call signs.

The club call signs are: K6AG A1 Code Talkers, WE6DX What Has God Wrought ARC, WB6CW A1 Telegraph Team, K6KKK QRQ Group, K6GOD Massey Family Radio Club, W7TTT A1 Brass Pounders, KF6UMA A1 Code Talkers, KF6UMB Born Again Code Team, KF6ULW A1 Telegraph Team, KF6ULZ Hams for Christ, W6UUU Southbay Morse Code Society, K6NNN A1 Morse Code Gang, KF6RBY Telegraph Wireless World and K6KEY QRV for Christ.

Riley Hollingsworth has set aside these call signs pending justification for the call signs from Massey. Hollisworth asked for the names, addresses and telephone numbers of each club's members, meeting times, meeting minutes and a copy of the 'document of origination' for each club.

Hollingsworth said he intends to cancel all of these club call signs if a satisfactory response is not received. He added "...unless you can provide complete justification for each of these applications, we may also consider these requests to be an abuse of our licensing processes that would reflect adversely on your qualifications to hold an Amateur license or subject you to a monetary forfeiture."

**Steven Nace KN5H (Chandler, AZ)** was sent a similar letter for the five club call signs that he was issued. (i.e.: WX6DX Social CW Contest Club, WW7DX Organ Volunteer Fire Dept. Ham Club, N7FO Baylor Canyon Contest Club, WW5DX Southern NM DX Assoc., and N2IR Southern NJ Contest Club.)

**By the way, the FCC has dropped the Amateur Radio enforcement line (at 202-418-1184).** Complaints now should be e-mailed to: fccham@fcc.gov or by snail mail to: CIB, ATTN: Amateur Radio Complaints, 1270 Fairfield Road, Gettysburg, PA 17325.

**Riley Hollingsworth, K4ZDH** gave a one hour presentation on Amateur Radio enforcement at the Dallas, Tex-

as **HamCom Convention** on Saturday, June 12<sup>th</sup>. Over 400 amateurs attended the forum and gave him a standing ovation. Riley said he takes his assignment very seriously. He told how he grew up in the Carolinas and got interested in ham radio at age 13 when his Dad brought home a 'breadboard' radio.

■ **SARL**, the South Africa Relay League has issued a *Policy Statement* stating that **"...there exists no good argument in favour of retaining Morse code as the only qualifier for Amateurs to have unrestricted access to the HF bands."**

SARL president Chris Turner, ZS6GM, says that SARL will now join the RSGB [Radio Society of Great Britain] to support initiatives in overhauling the qualifications for an unrestricted Amateur license.

SARL believes "...the first step in the overhauling process should be the immediate reduction in the Morse Code speed requirement from the present 12 words per minute to 5 words per minute, which still permits compliance with ITU radio regulation S25.5."

"Because the CEPT 1 license requires a proficiency in Morse at 12 wpm, Amateurs wishing to avail themselves of the CEPT arrangement will need to pass a 12 wpm Morse test. The League intends to request SATRA, the radio regulator, to change the radio regulations to introduce a new interim class of unrestricted HF license." [SATRA is the South African Telecommunications Regulatory Authority.]

"If the Amateur Service is to remain relevant in the 21<sup>st</sup> century, it needs to embrace and encourage the development and use of the newer technologies. Clinging to Morse Code as an entry requirement will impede rather than help this development," Turner said.

"The Amateur Radio Service has an extremely important role to play in the education of engineers and technologists in the field of telecommunications. It is therefore vital that the Amateur Service attracts young people. To this end the League after consultation with its members, the regulatory authorities and educationalists is in the process of developing a practical 'hands on' student amateur license, with a minimal 5 wpm Morse code exam, which is aimed at schools and school-going young people. In order to encourage ongoing development, the League will request SATRA to modify the regulations to permit student licensees full access to all HF bands but with limited RF power output."

"The League is aware that these pro-

posals may offend a number of Amateurs, but it believes that its duty lies in promoting the future of the Amateur Service, and therefore we appeal to those who have concerns, to accommodate these necessary changes and help us re-build the Amateur Service for the 21<sup>st</sup> century." [End of policy statement]

The new ticket will be called the **"Radio Amateur Learner's License"** and aimed at the 10-14 year age group. The course will be conducted in a classroom environment and will contain a number of practical projects including the construction of a Morse oscillator, an audio amplifier, and a simple receiver and CW transmitter. It is hoped that the new Learner's License project can begin next year.

■ On June 2<sup>nd</sup> the *Wall Street Journal* ran a feature story on their front page entitled **"Does Morse Code Keep Barbarians At Bay or Feed Ham Radio's Decline?"** It talks about the FCC "...contemplating relaxing the Morse Code requirement. The issue won't be decided until the end of summer, but it is already generating plenty of static in the ham-radio world," the WSJ said. The story presents both sides of the Morse issue.

■ **On the next page is a survey of currently licensed U.S. radioamateurs by state and license class.** This listing excludes the nearly 45 thousand amateurs who are in the "grace period" ...the 2 year period during which an expired license may be reactivated without further testing or call sign loss.

Included also is the number of club call signs by state. This number has more than tripled since the FCC began re-issuing club calls in early 1995 as part of the *Vanity Call Sign System* proceeding, PR Docket 93-305. There were only 2,028 club station call signs at that time. Now there are nearly 6,600 ...1,360 in California alone.

Also included in the chart is the (July 1998 Census Bureau estimated) population of each state and their average age. Florida has the oldest citizenry (with an average age of 38.3,) Utah (at 26.7 years) the youngest. The number of amateurs per 1,000 population is also listed. Alaska, (with 5.16 hams per thousand people) has the highest amateur penetration.

Note also that half of all U.S. radio amateurs now hold a Technician or Tech Plus ticket ...up from only 23% ten years ago and 37% five years ago.



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are as of June 1, 1999

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## Amateur Station Statistics by State - Includes state population, average age & amateurs per 1000 population

State:	Population In 000's:	Ave. Age:	Amateurs per 1,000:	Total Novice	Total Tech.	Total Tech+	Total General	Total Advan.	Total Extra	Grand Total:	Amateur Clubs:
AK Alaska	614	31.5	5.16	233	1059	527	536	474	342	3171	22
AL Alabama	4,352	35.5	2.39	497	3525	2036	1579	1552	1208	10397	73
AR Arkansas	2,538	35.8	2.65	380	2387	1225	966	980	788	6726	58
AZ Arizona	4,669	34.6	3.24	749	5100	2832	2412	2389	1655	15137	120
CA California	32,667	33.3	3.16	10472	36291	20408	13623	13690	8810	103294	1360
CO Colorado	3,971	35.5	2.96	740	3482	2315	1888	1997	1336	11758	74
CT Connecticut	3,274	37.7	2.57	966	1749	1655	1615	1329	1100	8414	99
DC Dist. Colum.	523	36.7	0.80	36	75	61	103	82	64	421	7
DE Delaware	744	35.7	1.86	104	324	301	250	207	201	1387	15
FL Florida	14,916	38.3	2.67	3,812	8706	7475	8235	7106	4558	39892	267
GA Georgia	7,642	33.8	1.87	860	4110	2956	2345	2406	1653	14330	153
GU Guam	148	-	3.57	22	237	107	56	50	57	529	6
HI Hawaii	1,193	36.2	2.61	313	925	594	481	441	354	3108	115
IA Iowa	2,862	36.6	2.26	536	1532	1134	1234	1255	768	6459	62
ID Idaho	1,229	33.3	3.42	219	1578	791	670	564	377	4199	28
IL Illinois	12,045	34.9	1.88	1943	6016	4495	3927	3631	2622	22634	217
IN Indiana	5,899	35.2	2.50	1155	4247	3201	2418	2162	1557	14740	146
KS Kansas	2,629	35.2	2.74	559	2079	1431	1325	1048	749	7191	87
KY Kentucky	3,934	35.6	2.21	688	2861	1721	1315	1129	979	8693	77
LA Louisiana	4,369	33.9	1.58	519	1910	1304	1149	1176	832	6890	65
MA Mass.	6,147	36.2	2.36	1336	3174	2915	2690	2298	2064	14477	144
MD Maryland	5,135	35.6	2.17	844	2657	2233	1889	1994	1510	11127	97
ME Maine	1,244	37.4	3.49	337	1124	809	890	653	527	4340	43
MI Michigan	9,817	35.3	2.10	1371	5825	4120	3650	3253	2350	20569	197
MN Minnesota	4,725	35.2	2.22	704	2751	1998	1963	1813	1244	10473	99
MO Missouri	5,439	35.8	2.30	836	3640	2289	2276	1999	1486	12526	116
MS Mississippi	2,752	33.4	1.69	286	1464	833	746	769	541	4639	39
MT Montana	880	37.5	3.44	192	990	543	518	451	329	3023	29
NC N. Carolina	7,546	35.2	2.39	1459	5420	3447	2861	2795	2077	18059	139
ND N. Dakota	638	35.8	2.43	105	451	307	310	220	158	1551	18
NE Nebraska	1,663	35.3	2.33	266	926	772	821	675	412	3872	43
NH New Hamp.	1,185	35.7	4.13	366	1261	1004	842	711	708	4892	54
NJ New Jersey	8,115	36.7	1.95	1522	3306	3285	2836	2693	2146	15788	158
NM New Mexico	1,737	34.0	2.96	203	1840	873	754	884	594	5148	39
NV Nevada	1,747	35.2	2.55	214	1439	827	787	699	487	4453	58
NY New York	18,175	35.9	1.81	3690	8429	6590	5590	4912	3749	32960	332
OH Ohio	11,209	35.8	2.69	2308	8454	6936	4761	4403	3264	30126	350
OK Oklahoma	3,347	35.6	2.66	554	3094	1690	1253	1328	980	8899	68
OR Oregon	3,282	36.7	3.88	856	3638	2532	2387	1982	1333	12728	134
PA Pennsylvania	12,001	37.6	2.01	1921	5580	5007	4468	3980	3108	24064	242
PR Puerto Rico	3,857	-	1.79	2436	967	1903	773	537	301	6917	28
RI Rhode Island	988	36.4	2.39	239	471	546	451	319	338	2364	29
SC S. Carolina	3,836	35.2	1.74	405	1835	1327	1260	1044	806	6677	54
SD S. Dakota	738	35.2	2.09	109	393	259	306	289	185	1541	20
TN Tennessee	5,431	35.9	2.53	809	4055	2975	2090	2167	1620	13716	102
TX Texas	19,760	33.0	2.06	2296	12058	7859	6614	6937	4969	40733	366
UT Utah	2,100	26.7	3.90	387	4071	1695	728	781	525	8187	35
VA Virginia	6,791	35.2	2.46	1179	4390	3342	2766	2839	2182	16698	128
VI Virgin Islands	118	-	2.54	21	83	41	70	41	44	300	8
VT Vermont	591	36.7	3.66	134	698	387	374	294	278	2165	45
WA Washington	5,689	35.3	4.16	1601	7390	4792	3912	3486	2487	23668	166
WI Wisconsin	5,234	35.7	1.99	660	3047	1893	1873	1713	1225	10411	85
WV West Virginia	1,811	38.6	3.50	400	2537	1197	887	691	633	6345	47
WY Wyoming	481	35.7	3.22	85	516	277	258	217	197	1550	15
Other*	-	-	-	59	431	150	133	110	137	1020	9
<b>Totals:</b>	<b>273,422</b>	<b>35.2</b>	<b>2.47</b>	<b>54993</b>	<b>196598</b>	<b>134222</b>	<b>110914</b>	<b>103645</b>	<b>75004</b>	<b>675376</b>	<b>6587</b>
<b>% of Total:</b>				<b>8.1%</b>	<b>29.1%</b>	<b>19.9%</b>	<b>16.4%</b>	<b>15.4%</b>	<b>11.1%</b>	<b>100%</b>	

[\* = Note: "Other" includes APO addresses plus American Samoa, and N. Mariana, Wake and Johnson Islands]